

EXHIBIT C

PART 1

Claim Chart: U.S. Patent 5,481,546

Claim Language	Accused System
<p>Claim 1</p> <p>1. A base station configuration in a two-way communication interactive video network having network hub switching center means for routing communications from and to a plurality of subscriber units comprising:</p>	<p>Sensus FlexNet and compatible equipment</p> <p>"The Sensus FlexNet System is a wide area Advanced Metering Infrastructure (AMI) system that provides the ability to read water, gas and electric meters with a common AMI platform. The FlexNet system is designed around the central concepts of Simplicity, Flexibility, and Reliability. The system supports one-way radio frequency (RF) transmission for water and gas meters, and offers two-way RF functionality for electric meters, including on-demand readings, remote disconnects/reconnects, and load shedding."</p>

"The network also includes a Data Operations Center (DOC) that communicates with all the Base Stations, monitors their operation and collects metering data messages

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Claim Language	Accused System
Claim 1	<p>Sensus FlexNet and compatible equipment from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules.”²</p> <p>“Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse infrastructure deployment for a wide variety of metering data collection applications.”³</p> <p>“The Regional Network Interface (RNI) is the data storage and processing center for the Sensus FlexNet system. One of the primary functions of the RNI is to receive and store data forwarded from the Tower Gateway Basestation (TGB). Once the data is received at the RNI, the utility can then use the data to assist them in improving efficiency throughout the utility. A major feature of the RNI is that it was designed to operate with standalone water or gas services and is also capable of operating in a combination utility environment that consists of water, gas and electric services. The RNI provides the necessary application to maximize the benefits of data collection.”⁴</p> <p>“USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for \$1.5 million and the opportunity to receive an additional \$3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed.”⁵</p>

Claim Chart: U.S. Patent 5,481,546

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Claim 1	<p>Sensus FlexNet and compatible equipment</p> <p>"The FlexNet system's two-way features include demand reads, kWh and actual voltage, and programmable read interval, low-voltage and breaker re-closure warnings, power fail alarm, and meter functions that are accessible from the Internet. Additional benefits include remote meter disconnect/reconnect, 15-minute demand resets, real-time clock calibration for top-of-the-hour reads, TOU billing and consumption correlation, energy management programs, text and rate change notification, load shed and restore, and real-time data for management and billing. The FlexNet system also has gas and water modules for combo utility applications. "Patented AMDS Connect wireless network architecture coupled with the latest generation of Sensus iCon meters has already been demonstrated to be a winning combination in several utility operating environments, including some of the most varied and unforgiving terrains in the country," added Britton Sanderford, President and CEO of AMDS. "The FlexNet system builds on that foundation to provide the most accurate and reliable meter reading system available in today's electric utility industry," Sanderford concluded."⁶</p> <p>Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (EON-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.</p> <p>The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is</p>

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Claim 1 not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "530 Patent") and U.S. Patent 7,012,546 (the "546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.	Sensus FlexNet and compatible equipment "A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive, decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below." ⁷

Claim Chart: U.S. Patent 5,481,546

Claim Language	Accused System
Claim 1	Sensus FlexNet and compatible equipment

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graph LR
    subgraph Accused_System [Accused System]
        subgraph Top_Module [Top Meter Module]
            TMM[Two-way meter module] --> PR[Paging Receiver]
            PR --> POF[POCSAG/Flex Decoder]
            POF --> TX1[Transmitter]
            TX1 --> M1[Meter]
        end
        subgraph Bottom_Module [Bottom Meter Module]
            OM[One-way meter module] --> TX2[Transmitter]
            TX2 --> M2[Meter]
        end
        M1 <--> M2
    end

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"USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPSCS) network. Under the agreement, the Company will sell one of its NPSCS licenses to Advanced Metering Data Systems for \$1.5 million and the opportunity to receive an additional \$3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPSCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems

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Claim 1 with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed. ¹⁸	<p>"Sensus FlexNet SmartPoint model 520X is a pit set radio signal device which permits off site meter reading via licensed radio signal in a pit set or vault environment. The model 520 is designed to maximize performance in an RF environment. In order to achieve maximum performance, the model 520 must be installed through the pit lid. The FlexNet SmartPoint interfaces with any compatible absolute encoder equipped utility meter and operates in conjunction with a Sensus FlexNet system. The Sensus FlexNet System eliminates a number of meter reading problems such as lockouts, curbside reading estimates, estimated bills and errors associated with manual meter reading methods. The FlexNet SmartPoint is available in one and two port models. This feature provides enhanced cost effective AMI where multiple meter installations exist."¹⁹</p> <p>Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal – FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "FlexNet with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (EON-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.</p> <p>The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is</p>

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Claim Language	Accused System
Claim 1	<p>Sensus FlexNet and compatible equipment</p> <p>not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the "530 Patent") and U.S. Patent 7,012,546 (the "546 Patent"), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.</p> <p>local base station repeater cell means for communicating with identified individual subscriber units within a local base station geographic area associated with said local base station repeater cell means, said local base station repeater cell means further comprising:</p> <p>"Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902-928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."¹⁰</p>

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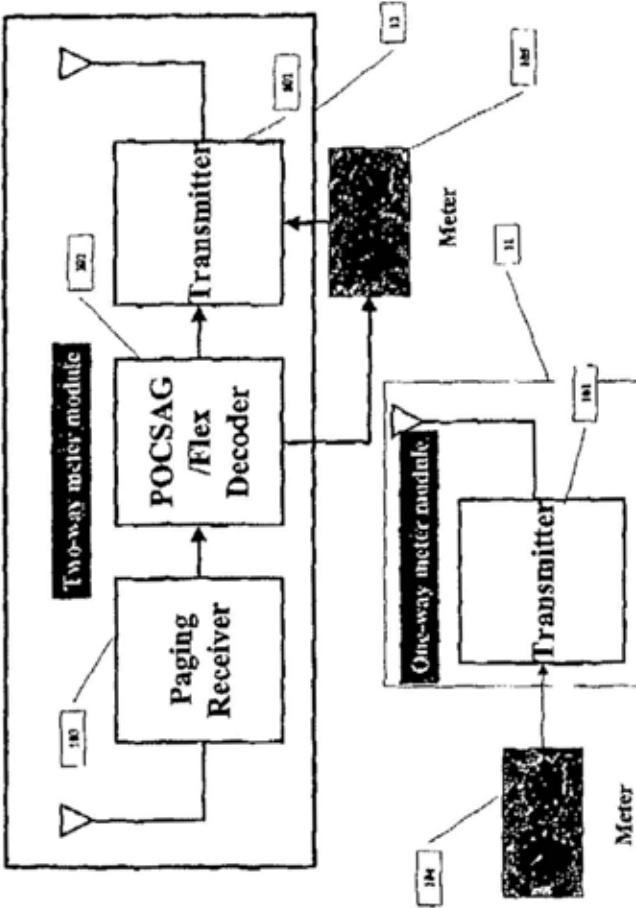
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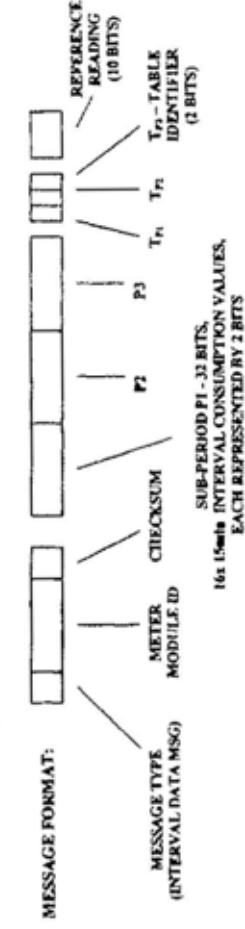
Claim Language	Accused System
Claim 1 and message reception rate. Adding Base Stations reduces the effective range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity.” ¹¹	<p>Sensus FlexNet and compatible equipment</p> <p>Additional information disclosing this claim element can be found in “Sensus FlexNet Annual Maintenance Agreement AMR-454-R2,” (EON-SENS 000001-2); “FlexNet Network Portal – FNP AMI-460,” (EON-SENS 000003); “Model 510X Non-Pit Set AMR 326-R5,” (EON-SENS 000004); “Model 520X - Pit Set AMR 327-R4,” (EON-SENS 000005); “regional Network Interface AMI-420,” (EON-SENS 000006); “Tower Gateway Base Station AMR 452-R1,” (EON-SENS 000007); “FlexNet System Specifications AMR-456-R1,” (EON-SENS 000008-9); “FlexNet Technology Overview,” (EON-SENS 000010-13); “FlexNet System,” (EON-SENS 000014-21); “Technical Report,” (EON-SENS 000022); “FlexNet with AMDS Connect Promises Increased Productivity,” (EON-SENS 000023-24); “Advanced Metering Data Systems,” (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (EON-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.</p> <p>The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the “‘530 Patent”) and U.S. Patent 7,012,546 (the “‘546 Patent”), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.</p>

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Claim 1	<p>base station data processing and transmission means for transmitting to a set of said local subscriber units contained within said local base station geographic area associated with said local base station repeater cell means and receiving from a subset of said local set of subscriber units multiplexed synchronously related digital data messages of variable lengths for point-to-point communication between said local base station repeater cell means and said subset of said local subscriber units,</p> <p>"Each receiver Base Station 02 is able to receive and decode DSSS encoded signals (air messages) generated by the meter modules. The bandwidth of the DSSS signal is approximately 2 MHz. Base Stations 02 can be optimized to receive signals in any radio frequency range between 800 MHz and 1 GHz, including the 902 928 MHz Industrial, Scientific, and Medical (ISM) band allocated by the FCC for unlicensed use. In a preferred embodiment, the data collection network operates in the ISM band under the rules for unlicensed operation (Part 15 of the FCC Rules), and requires no licensing for any portion of its wireless uplink channel."¹²</p> <p>"Level 5 (highest level of air-message capacity): In a one-way data collection network, an additional, higher level of capacity may be reached by adding a downlink channel and deploying transceivers rather than transmitter meter modules. A two-way system has the inherent potential to be more efficient with radio airtime resource, since field units may be synchronized to a central clock, allowing transmission according to allocated time slots. The higher the rate of two-way meter modules in the metered population, the higher the capacity increase provided by adding the downlink channel. The wireless data collection network described above may be scaled up from one-way (data collection only) to two-way by connecting the DOC to a wireless downlink channel in a modular way as described above. In addition, the measures described in levels 2 to 4 above may be implemented in a two-way network as well in order to further increase network capacity."¹³</p>

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Claim 1 Sensus FlexNet and compatible equipment	 <p>In a preferred embodiment of a two-way metering data network, both one-way (transmitter) and two-way (transceiver) meter modules operate on the same network. Transceivers can be interrogated for data at the time that the data is required, thus eliminating the need for repeated transmissions, which are required in a one-way network in order to maintain a certain level of data latency. In addition, by synchronizing all transceiver modules to one central real-time clock, a time slot for transmission may be allocated and specified for each transceiver in a coverage area, thereby increasing the efficiency of network airtime usage.</p> <p>The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the</p>

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Claim 1 data, and then includes the data itself, as indicated at 96." ¹⁴	<p style="text-align: right;"><i>Fig. 7</i></p>  <p>MESSAGE FORMAT: (INTERVAL DATA MSG)</p> <ul style="list-style-type: none"> HEADER (40 BITS) INTERVAL DATA (112 BITS) REFERENCE READING (10 BITS) <p>SUB-PERIOD P1 - 32 BITS. 16x 16-bit INTERVAL CONSUMPTION VALUES, EACH REPRESENTED BY 2 BITS</p> <p>METER MODULE ID</p> <p>CHECKSUM</p> <p>P1</p> <p>T_n T_n T_n T_n</p> <p>T_n- TABLE IDENTIFIER (2 BITS)</p> <p>16x 16-bit INTERVAL CONSUMPTION VALUES, EACH REPRESENTED BY 2 BITS</p>

"In order to provide a high level of redundancy of interval consumption data, another data encoding method is provided, referred to as interval consumption data "interleaving air message encoding", which splits interval consumption values between separate messages. In a particular embodiment, depicted graphically in FIGS. 9A 9C, and in FIG. 11, three separate interval consumption data air messages 130, 132 and 134, are transmitted that relate to the same consumption period b-a. The first air message includes samples taken at times a, a+x, a+2x, . . . and is transmitted at time b. The second air message includes samples taken at times a+x/3, a+4x/3, a+7x/3, . . . b+x/3, and is transmitted at time b+x/3. The third air message includes samples taken at times a+2x/3, a+5.times.13, a+8.times./3, b+2.times./3, and is transmitted at time b+2x/3, as illustrated at block 136 in FIG. 11. More generally, in order to spread transmissions during the day, the offset between interval data arrays may be x/3+Nx, where N is an integer."¹⁵

"Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter population and metering data application in a specified geographical area. The initial phase of planning network coverage includes optimal selection of the number and locations of Base Stations to be deployed in the specified area. When a Base Station

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Claim Language	Accused System
Claim 1	<p>Sensus FlexNet and compatible equipment</p> <p>covers a large area and the meter module density or air message frequency requirements continuously increase, at some stage the farthest meter modules would endure interference from the closer meter modules, and message reception probability from the farthest meter modules will decrease. Base Stations may be added at appropriate locations in the same geographic area, in order to increase network capacity and message reception rate. Adding Base Stations reduces the effective range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity.”¹⁶</p> <p>Additional information disclosing this claim element can be found in “Sensus FlexNet Annual Maintenance Agreement AMR-454-R2,” (EON-SENS 000001-2); “FlexNet Network Portal – FNP AMI-460,” (EON-SENS 000003); “Model 510X Non-Pit Set AMR 326-R5,” (EON-SENS 000004); “Model 520X - Pit Set AMR 327-R4,” (EON-SENS 000005); “regional Network Interface AMI-420,” (EON-SENS 000006); “Tower Gateway Base Station AMR 452-R1,” (EON-SENS 000007); “FlexNet System Specifications AMR-456-R1,” (EON-SENS 000008-9); “FlexNet Technology Overview,” (EON-SENS 000010-13); “FlexNet System,” (EON-SENS 000014-21); “Technical Report,” (EON-SENS 000022); “FlexNet with AMDS Connect Promises Increased Productivity,” (EON-SENS 000023-24); “Advanced Metering Data Systems,” (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (EON-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.</p> <p>The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the “530 Patent”) and U.S. Patent 7,012,546 (the “546 Patent”), each of which are hereby incorporated by reference. Not all of the material disclosed in these</p>

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Additional information disclosing this claim element can be found in “Sensus FlexNet Annual Maintenance Agreement AMR-454-R2,” (EON-SENS 000001-2); “FlexNet Network Portal – FNP AMI-460,” (EON-SENS 000003); “Model 510X Non-Pit Set AMR 326-R5,” (EON-SENS 000004); “Model 520X - Pit Set AMR 327-R4,” (EON-SENS 000005); “regional Network Interface AMI-420,” (EON-SENS 000006); “Tower Gateway Base Station AMR 452-R1,” (EON-SENS 000007); “FlexNet System Specifications AMR-456-R1,” (EON-SENS 000008-9); “FlexNet Technology Overview,” (EON-SENS 000010-13); “FlexNet System,” (EON-SENS 000014-21); “Technical Report,” (EON-SENS 000022); “FlexNet with AMDS Connect Promises Increased Productivity,” (EON-SENS 000023-24); “Advanced Metering Data Systems,” (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (EON-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.

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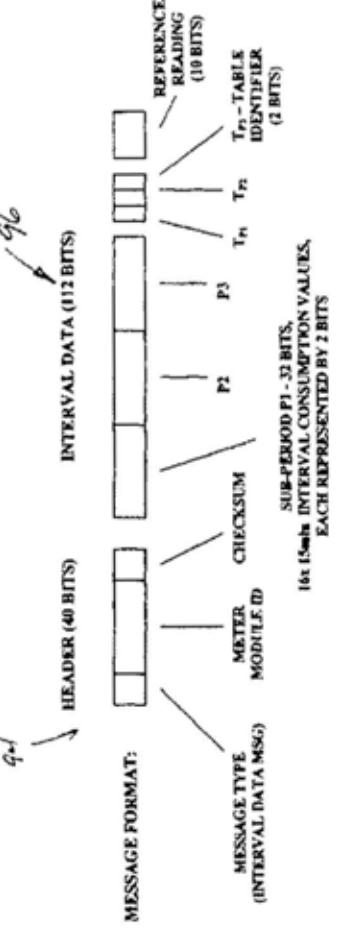
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Claim 1 upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.	Sensus FlexNet and compatible equipment “According to a particular embodiment, in some cases, a cost-efficient means for expanding network coverage is adding Network Transceiver/Repeater devices (NTR) in order to provide coverage for meter modules experiencing poor or no Base Station coverage. This means provides more flexibility to the network operator by creating another option for providing coverage to a limited geographic area. NTR cost of deployment and maintenance is significantly lower than that of a Base Station. Therefore, besides being a cost effective solution to poor coverage, it also may cost justify the enhancement of a network's coverage to areas of low population density, thus extending the reach of its automated metering data collection system. The deployment of NTR devices does not require the network operator to perform any changes in any of the other elements of the network infrastructure.” ¹⁸

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Claim 1 Sensus FlexNet and compatible equipment	<p>The diagram illustrates the Sensus FlexNet and compatible equipment system. At the top center is a rectangular box labeled "DOC". To its left is a cylinder labeled "DB" and to its right is an oval labeled "Downlink". Three arrows point from the "DOC" box to three separate ovals, each containing the letters "BS" and a number "14". These three "BS 14" nodes are interconnected by a network of lines. Some lines connect them directly, while others pass through various circular nodes labeled with numbers such as 10, 12, 16, 18, 20, 22, 24, 25, 30, 32, 34, 36, and 38. One line from a "BS 14" node goes to a rectangular box labeled "NTR".</p>

"The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96."¹⁹

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Claim 1	<p>Sensus FlexNet and compatible equipment</p>  <p style="text-align: center;">F1G 7</p>

"The Tower Gateway Base Station (TGB) is a one-way application and receives transmission from the FlexNet SmartPoint in predetermined intervals. TGB's are strategically located within an area to insure coverage requirements are achieved. The SmartPoint units can be housed on typical communications towers and/or on a utility's property should they meet the criteria for installation. Once the data is received at the TGB, the information is then forwarded to the Regional Network Interface (RNI) typically located at the utility."²⁰

"The features incorporated in the TGB provide the industry's most reliable data collection system. Incorporated in the design, the system provides assurance that data will not be lost and can also be held for extended periods of time. One of the primary features of the TGB is its ability to store thirty (30) days worth of data. This feature provides the ability for the end user to access the tower should an extended outage occur. The TGB also incorporates other alternative communication methods in the chance that the primary communication link is disabled. In addition, the TGB provides an eight (8) hour battery backup in case the primary source of power is interrupted. In the case of multiple TGB sites in the coverage area, neighboring TGBs can accept and process data if required."²¹

"The FlexNet Network Portal (FNP) is an optional receive and transmit unit that

Claim Language	Accused System
Claim 1	<p>Sensus FlexNet and compatible equipment</p> <p>provides simple store and forward messaging from Sensus FlexNet SmartPoints. Units are strategically placed after the complete deployment of FlexNet Tower Gateway Base Stations (TGB). Once areas within a network have been identified to have little or no coverage, the FNP provides an economical solution within an existing network. Messages are collected at the FNP and transmitted to the TGB over a primary licensed frequency to assure that coverage is provided within a designated service territory.</p> <p>Operation: The FNP operates within a deployed network to assure that messages are received at the Regional Network Interface (RNI). The FNP typically can support up to four hundred (400) FlexNet SmartPoints within a serviceable range of an installed network. RF transmissions on the Sensus primary licensed frequency allow the FNP to receive and transmit messages from Sensus FlexNet SmartPoints to the TGB. By incorporating RF transmission as the backhaul communications method, the utility has greater flexibility in installation options. Numerous locations such as light poles, buildings or existing utility structures with access to AC power (110-240 VAC) provide excellent locations for FNP installations. Flexible antenna options can be utilized to maximize performance. The FNP incorporates a battery back up power source should a power outage occur which allows for seamless operation.^{,22}</p> <p>"Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter population and metering data application in a specified geographical area. The initial phase of planning network coverage includes optimal selection of the number and locations of Base Stations to be deployed in the specified area. When a Base Station covers a large area and the meter module density or air message frequency requirements continuously increase, at some stage the farthest meter modules would endure interference from the closer meter modules, and message reception probability from the farthest meter modules will decrease. Base Stations may be added at appropriate locations in the same geographic area, in order to increase network capacity and message reception rate. Adding Base Stations reduces the effective range between each meter module to be deployed and the Base Station closest to it, so that more meter modules or potential meter module locations are within a range of high air-message reception probability. Thus, the placement of additional Base Stations in the same</p>

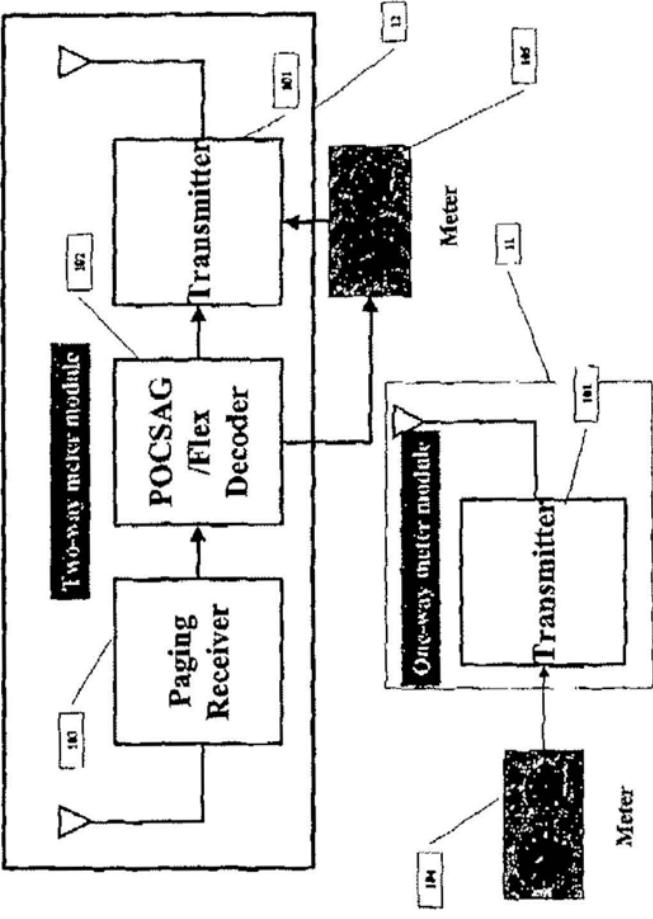
Claim Chart: U.S. Patent 5,481,546

Claim Language	Accused System
Claim 1 geographic area, without any other change in the network or the meter modules, will in itself increase overall network capacity.” ²³	<p>Additional information disclosing this claim element can be found in “Sensus FlexNet Annual Maintenance Agreement AMR-454-R2,” (EON-SENS 000001-2); “FlexNet Network Portal – FNP AMI-460,” (EON-SENS 000003); “Model 510X Non-Pit Set AMR 326-R5,” (EON-SENS 000004); “Model 520X - Pit Set AMR 327-R4,” (EON-SENS 000005); “Regional Network Interface AMI-420,” (EON-SENS 000006); “Tower Gateway Base Station AMR 452-R1,” (EON-SENS 000007); “FlexNet System Specifications AMR-456-R1,” (EON-SENS 000008-9); “FlexNet System,” (EON-SENS 000014-21); “Overview,” (EON-SENS 000010-13); “FlexNet Report,” (EON-SENS 000022); “FlexNet with AMDS Connect Promises Increased Productivity,” (EON-SENS 000023-24); “Advanced Metering Data Systems,” (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (EON-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.</p> <p>The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the “530 Patent”) and U.S. Patent 7,012,546 (the “546 Patent”), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.</p> <p>“A two-way meter module is capable of transmitting metering data air messages on demand (upon receiving an appropriate wireless command) and may also be conveniently programmed to transmit at specific times by maintaining a real-time clock synchronized by the wireless downlink channel. Two-way meter modules also receive,</p> <p>a set of local subscriber transceiver units including low power mobile units located within said local</p>

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Claim Language	Accused System
Claim 1 base station geographic area, each of said local subscriber transceiver units adapted to communicate with said local base station repeater cell means by way of digital data signals of variable lengths synchronously related to a base station broadcast signal and timed for multiplexed message transmission.	<p>Sensus FlexNet and compatible equipment</p> <p>decode and execute other commands such as: programming meter parameters, displaying messages or alerts on the meter's display, disconnecting and reconnecting power to the utility meter's load. FIG. 2 depicts a block diagram of a particular embodiment of a two-way meter module, in which the elements added to a one-way meter module (transmitter described herein), in order to produce a two-way meter module, include a paging receiver and decoder. The basic transmitter apparatus is described further in detail separately below.²⁴</p> <p>"USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for \$1.5 million and the opportunity to receive an additional \$3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."²⁵</p> <p>"Sensus FlexNet SmartPoint model 520X is a pit set radio signal device which permits off site meter reading via licensed radio signal in a pit set or vault environment. The model 520 is designed to maximize performance in an RF environment. In order to achieve maximum performance, the model 520 must be installed through the pit lid. The FlexNet SmartPoint interfaces with any compatible absolute encoder equipped utility meter and operates in conjunction with a Sensus FlexNet system. The Sensus FlexNet System eliminates a number of meter reading problems such as lockouts, curbside reading estimates, estimated bills and errors associated with manual meter reading methods. The FlexNet SmartPoint is available in one and two port models. This feature provides enhanced cost effective AMI where multiple meter installations</p>

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Claim Language	Accused System
Claim 1	Sensus FlexNet and compatible equipment exist. ²⁶
	 <p>The diagram illustrates the accused system architecture. A central unit contains a 'Paging Receiver' (100), a 'POCSAG /Flex Decoder' (102), and a 'Transmitter' (104). It also includes a 'Two-way meter module' (106) connected to an antenna (108) and a 'One-way meter module' (110) connected to an antenna (112). Bidirectional communication is established between the central unit and two separate meter units. The first meter unit (114) contains a 'One-way meter module' (116) connected to an antenna (118) and a 'Transmitter' (120). The second meter unit (122) contains a 'Two-way meter module' (124) connected to an antenna (126) and a 'Transmitter' (128). Arrows indicate the flow of data between the central unit and each meter unit.</p> <p>“In a particular embodiment, the transmitted power is one watt, for a duration of 150 msec and with a recharge time of 90 seconds.”²⁷</p> <p>“The transmitted message is illustrated in FIG. 7 as including a message header 94 which includes the identification (ID) of the meter module which has calculated the data, and then includes the data itself, as indicated at 96.”²⁸</p>

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Claim Language	Accused System
Claim 1 Sensus FlexNet and compatible equipment	<p style="text-align: center;"><i>Fig. 9c</i></p> <p style="text-align: center;">MESSAGE FORMAT: (INTERVAL DATA MSG)</p> <p style="text-align: center;">HEADER (40 BITS)</p> <p style="text-align: center;">INTERVAL DATA (112 BITS)</p> <p style="text-align: center;">SUB-PERIOD P1 - 32 BITS, 16x 16-bit INTERVAL CONSUMPTION VALUES, EACH REPRESENTED BY 2 BITS</p> <p style="text-align: center;">METER ID MODULE ID CHECKSUM REFERENCE READING (10 BITS)</p> <p style="text-align: center;">r₁ r₂ r₃ r_n r₁ r₂ r₃ r_n</p> <p style="text-align: center;">Tr-TABLE IDENTIFIER (2 BITS)</p> <p style="text-align: center;">F G 7</p> <p>"In order to provide a high level of redundancy of interval consumption data, another data encoding method is provided, referred to as interval consumption data "interleaving air message encoding", which splits interval consumption values between separate messages. In a particular embodiment, depicted graphically in FIGS. 9A 9C, and in FIG. 11, three separate interval consumption data air messages 130, 132 and 134, are transmitted that relate to the same consumption period b-a. The first air message includes samples taken at times a, a+x, a+2x, . . . and is transmitted at time b. The second air message includes samples taken at times a+x/3, a+4x/3, a+7x/3, . . . b+x/3, and is transmitted at time b+x/3. The third air message includes samples taken at times a+2x/3, a+5.times.13, a+8.times./3, b+2.times./3, and is transmitted at time b+2x/3, as illustrated at block 136 in FIG. 11. More generally, in order to spread transmissions during the day, the offset between interval data arrays may be x/3+Nx, where N is an integer."²⁹</p> <p>"The FlexNet system fully supports the download of new, executable software to all elements of the network including the endpoints. Changes to software and set points is acknowledged and reported to the data collection system. Additionally, the current settings for all endpoints are periodically sent to the data collection system autonomously. The control system for meter executable modification is now being</p>

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Claim Language	Accused System
Claim 1	<p>Sensus FlexNet and compatible equipment</p> <p>developed to allow for scheduling, as well as interruption and resumption of processing. As each module receives the new code it verifies that it has the complete set and if not requests the individual blocks that are missing. Once the code has been fully downloaded to the devices they are verified and marked as ready. The endpoints then await a switch over command before switching to the new set of code. The old code remains in place until the next generation of code is sent to the module.”³⁰</p> <p>Additional information disclosing this claim element can be found in “Sensus FlexNet Annual Maintenance Agreement AMR-454-R2,” (EON-SENS 000001-2); “FlexNet Network Portal – FNP AMI-460,” (EON-SENS 000003); “Model 510X Non-Pit Set AMR 326-R5,” (EON-SENS 000004); “Model 520X - Pit Set AMR 327-R4,” (EON-SENS 000005); “regional Network Interface AMI-420,” (EON-SENS 000006); “Tower Gateway Base Station AMR 452-R1,” (EON-SENS 000007); “FlexNet System Specifications AMR-456-R1,” (EON-SENS 000008-9); “FlexNet Technology Overview,” (EON-SENS 000010-13); “FlexNet System,” (EON-SENS 000014-21); “Technical Report,” (EON-SENS 000022); “FlexNet with AMDS Connect Promises Increased Productivity,” (EON-SENS 000023-24); “Advanced Metering Data Systems,” (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (EON-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.</p> <p>The FlexNet architecture and data transmission protocols include confidential and proprietary information of Sensus, AMDS, and other companies. Some information regarding the specific details of the FlexNet network and FlexNet compatible devices is not publicly available per se, but is believed to be contained at least in U.S. Patent 7,009,530 (the “530 Patent”) and U.S. Patent 7,012,546 (the “546 Patent”), each of which are hereby incorporated by reference. Not all of the material disclosed in these patents may be representative of the FlexNet architecture and data transmission protocols. Plaintiff reserves the right to amend these infringement contentions based upon non-public materials produced by the Defendants, regardless of whether such non-public materials incorporate disclosure from these or any other U.S. or foreign patents or publications.</p>

Claim Language	Accused System
<p>Claim 2</p> <p>2. A two-way communication interactive video network system having network hub switching center means for routing communications to and from a plurality of subscriber units comprising:</p>	<p>"The Sensus FlexNet System is a wide area Advanced Metering Infrastructure (AMI) system that provides the ability to read water, gas and electric meters with a common AMI platform. The FlexNet system is designed around the central concepts of Simplicity, Flexibility, and Reliability. The system supports one-way radio frequency (RF) transmission for water and gas meters, and offers two-way RF functionality for electric meters, including on-demand readings, remote disconnects/reconnects, and load shedding."³¹</p> <p>The diagram illustrates the Sensus FlexNet system architecture. It features a central Downlink (20) connected to a DOC (Data Operations Center). The DOC is connected to a DB (Data Base). The DB is connected to three BS (Base Stations) labeled 14. The BS are connected to a NTR (Network Terminal Router). The NTR is connected to several meters, specifically numbered 12, 22, 24, 25, and 30. Bidirectional arrows indicate communication between the Downlink and DOC, between the DOC and DB, between the DB and BS, between BS and NTR, and between NTR and the meters.</p>

"The network also includes a Data Operations Center (DOC) that communicates with

Claim Chart: U.S. Patent 5,481,546

Claim Language	Accused System
Claim 2	<p>Sensus FlexNet and compatible equipment</p> <p>all the Base Stations, monitors their operation and collects metering data messages from them. The DOC may also be communicatively coupled to a paging network, or other wireless network, for sending downlink commands to the two-way meter modules.³²</p> <p>"USA Mobility, Inc. announced that it has entered into an alliance with Advanced Metering Data Systems, LLC and Sensus Metering Systems to provide utility meter monitoring services over a two-way narrowband personal communications services (NPCS) network. Under the agreement, the Company will sell one of its NPCS licenses to Advanced Metering Data Systems for \$1.5 million and the opportunity to receive an additional \$3.5 million in future royalty payments based upon a percentage of the monitoring revenues derived from Advanced Metering Data's use of the NPCS license. The Company also will receive a right to acquire a future equity interest in AMDS. Additionally, USA Mobility will provide Advanced Metering Data Systems with ongoing network services, including turnkey system build-out, maintenance, repair and central monitoring. The agreement also provides Advanced Metering Data Systems with access to the Company's tower locations throughout North America where the AMR fixed network receivers will be installed."³³</p> <p>"The FlexNet system's two-way features include demand reads, kWh and actual voltage, and programmable read interval, low-voltage and breaker re-closure warnings, power fail alarm, and meter functions that are accessible from the Internet. Additional benefits include remote meter disconnect/reconnect, 15-minute demand resets, real-time clock calibration for top-of-the-hour reads, TOU billing and consumption correlation, energy management programs, text and rate change notification, load shed and restore, and real-time data for management and billing. The FlexNet system also has gas and water modules for combo utility applications. "Patented AMDS Connect wireless network architecture coupled with the latest generation of Sensus iCon meters has already been demonstrated to be a winning combination in several utility operating environments, including some of the most varied and unforgiving terrains in the country," added Britton Sanderford, President and CEO of AMDS. "The FlexNet system builds on that foundation to provide the most accurate and reliable meter</p>

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Claim Language	Accused System
Claim 2	<p>Sensus FlexNet and compatible equipment reading system available in today's electric utility industry," Sandersford concluded."³⁴</p> <p>"Metering data messages are collected by a network of receiver Base Stations. The reception range of each Base Station is typically over 5 miles in urban areas, allowing sparse infrastructure deployment for a wide variety of metering data collection applications."³⁵</p>

Additional information disclosing this claim element can be found in "Sensus FlexNet Annual Maintenance Agreement AMR-454-R2," (EON-SENS 000001-2); "FlexNet Network Portal - FNP AMI-460," (EON-SENS 000003); "Model 510X Non-Pit Set AMR 326-R5," (EON-SENS 000004); "Model 520X - Pit Set AMR 327-R4," (EON-SENS 000005); "regional Network Interface AMI-420," (EON-SENS 000006); "Tower Gateway Base Station AMR 452-R1," (EON-SENS 000007); "FlexNet System Specifications AMR-456-R1," (EON-SENS 000008-9); "FlexNet Technology Overview," (EON-SENS 000010-13); "FlexNet System," (EON-SENS 000014-21); "Technical Report," (EON-SENS 000022); "Flex Net with AMDS Connect Promises Increased Productivity," (EON-SENS 000023-24); "Advanced Metering Data Systems," (EON-SENS 000025); press releases (EON-SENS 000026-30); FlexNet Architecture description (EON-SENS 000031-41); and Sensus FlexNet FAQ (EON-SENS 000042-44), each of which are hereby incorporated by reference in their entirety.

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Claim Language	Accused System
<p>base station repeater cell means for communicating with a plurality of subscriber units, said base station repeater cell means and said plurality of subscriber units disposed in a respective geographic area, said base station repeater cell means further comprising:</p>	<p>Sensus FlexNet and compatible equipment</p>

"Level 2: Space diversity is implemented to adjust network capacity, by controlling the amount of Base Stations used in order to provide coverage to specified meter